WHAT IS CLAIMED IS:

1. A fuel assembly comprising:

a bottom nozzle set on a lower core plate of a nuclear reactor;

a top nozzle with a hold down spring to urge said bottom nozzle against the lower core plate;

a plurality of control rod guide tubes which guide control rods, having passed through said top nozzle, toward the lower core plate;

a plurality of grids mounted on said control rod guide tubes;

a plurality of fuel rods held by said grids to be substantially parallel to said control rod guide tubes;

a thin tube-like dashpot formed on each of said control rod guide tubes to reduce a fall velocity of a corresponding one of the control rods;

a thimble screw which connects each of said control rod guide tubes to said bottom nozzle; and

a drain hole formed to extend through said thimble screw, wherein

said dashpot has a large-diameter portion, at a lower portion thereof, with substantially the same diameter as that of each of said control rod guide tubes, and a diameter d of said drain hole falls within a range of $0.04D < d < 0.08D$ where D is an inner diameter of the large-diameter portion.

2. A fuel assembly to be applied to a nuclear

reactor, comprising

a thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has a drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the drain hole from the spot facing hole toward the distal end while the nuclear reactor operates and into the drain hole from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat with a rotation preventive pin, and is provided with a coolant collision portion, at a drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase the pressure drop of the coolant during the scram mode.

3. A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

4. A fuel assembly according to claim 2, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

5. A fuel assembly according to claim 2, wherein

a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

6. A fuel assembly to be applied to a nuclear reactor, comprising

a thimble screw which is disposed in a bottom nozzle to extend from a bottom surface side, has a first drain hole and second drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the first drain hole and second drain hole from the spot facing hole toward a distal end side while the nuclear reactor operates and into the second drain hole and first drain hole from the distal end side toward the spot facing hole during a scram mode, and is locked to the bottom nozzle at the seat with a rotation preventive pin, the first drain hole having an opening area smaller than an opening area of the spot facing hole and smaller than an opening area of the second drain hole at the distal end.

7. A fuel assembly according to claim 6, wherein the thimble screw comprises a coolant collision portion, at a first drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole

collides in order to increase pressure drop of the coolant during the scram mode.

8. A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

9. A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

10. A fuel assembly according to claim 7, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

11. A thimble screw providing a drain hole formed to extend through for connecting a control rod guide tube of a fuel assembly to a bottom nozzle, the fuel assembly comprising a bottom nozzle set on a lower core plate of a nuclear reactor, a top nozzle with a hold down spring to urge the bottom nozzle against the lower core plate, a plurality of control rod guide tubes which guide control rods, having passed through the top nozzle, toward the lower core plate, a plurality of grids mounted on the control rod guide tubes, a plurality of fuel rods held by the grids to be

substantially parallel to the control rod guide tubes, and a thin tube-like dashpot formed on each of the control rod guide tubes to reduce a fall velocity of a corresponding one of the control rods, wherein

an inner diameter D, with substantially the same diameter as that of each of the control rod guide tubes, of a large-diameter portion at a lower portion of the dashpot, and a diameter d of the drain hole satisfy the following equation $0.04D < d < 0.08D$.

12. A thimble screw which is disposed in a bottom nozzle so as to extend from a bottom surface side, has a drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the drain hole from the spot facing hole toward the distal end while the nuclear reactor operates and into the drain hole from a distal end side toward the spot facing hole during a scram mode, is locked to the bottom nozzle at the seat with a rotation preventive pin, and is provided with a coolant collision portion, at a drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

13. A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion

against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

14. A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

15. A thimble screw according to claim 12, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.

16. A thimble screw which is disposed in a bottom nozzle of a fuel assembly of a nuclear reactor so as to extend from a bottom surface side, has a first drain hole and second drain hole extending through in a longitudinal direction from a spot facing hole of a seat to a distal end, is configured such that a coolant is supplied into the first drain hole and second drain hole from the spot facing hole toward a distal end side while the nuclear reactor operates and into the second drain hole and first drain hole from the distal end side toward the spot facing hole during a scram mode, and is locked to the bottom nozzle at the seat with a rotation preventive pin, the first drain hole having an opening area smaller than an opening area of the spot facing hole and smaller than an opening area of

the second drain hole at the distal end.

17. A thimble screw according to claim 16, having a coolant collision portion, at a first drain hole side of the rotation preventive pin, against which the coolant flowing from the distal end side toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode.

18. A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface ground in a V-shape from the distal end side toward the spot facing hole.

19. A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a flat surface.

20. A thimble screw according to claim 17, wherein a collision surface of the coolant collision portion against which the coolant collides forms a recessed surface arcuately ground from the distal end side toward the spot facing hole.